Travis Zhang

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Education

Cornell University, **College of Engineering**   **Ithaca, New York**
Bachelor of Science in Computer Science | **GPA:** 3.931 | Dean's List (Fall 2020)   *Sep 2020 – May 2024*
- **Relevant Courses:** Intro to ML, OOP and Data Structures, Functional Programming and Data Structures*, Intro to Backend Development*, Discrete Structures, Linear Algebra*, Multivariable Calculus, Computing Tech in Smartphones*

Hamilton High School   **Chandler, Arizona**
GPA: 4.927/5.0   *July 2016 – May 2020*
- **Honors:** Steve Sanghi Scholarship Award, Andy Grove Intel Scholarship, National Honor Society Semifinalist Scholarship

*: Current courses

Experience

ASU Robust Machine Learning Group   **Tempe, Arizona**
Student Researcher   *April 2019 – Present*
- Applied transformation-invariant constraints on adversarial training using Tensorflow to improve robustness of Convolutional Neural Network (CNN)
- Implemented 3 algorithms to reduce time for loss to converge for proposed methodology (up to 60% reduction)
- Designed physical attack to fool Deep Reinforcement Learning (RL) Agent using Pytorch

ASU Signal, Information, Networks, and Energy Laboratory   **Tempe, Arizona**
Student Researcher   *Sep 2017 – April 2018*
- Created program to temporally and spatially interpolate power outputs of solar panels using Scikit-learn, Pandas, and Numpy
- Analyzed patterns in cloud coverage and temperature to account for fluctuations in power output

Activities

Cornell Data Science Project Team   **Ithaca, New York**
Intelligent Systems Subteam   *Feb 2020 – Present*
- Developed multiple RL agents (perfect and imperfect information) to play No Limit Texas Hold Em
- Attended weekly meetings for project updates & gave paper presentations to team

Associate of Computer Science Undergraduates   **Ithaca, New York**
Academic Officer   *Oct 2020 – Present*
- Helped organize and host academic events including research night and student-faculty luncheon

Hamilton Robotics Team ⦿   **Chandler, Arizona**
Head of Electrical, Head of Communications   *Aug 2016 – May 2020*
- Designed robot using Solidworks and used CNC router and mill to build precise parts
- Programmed autonomous, teleoperated, and vision code for robot using Java and FRC WPI Library

Mathworks Math Modeling Challenge ⧉   **Chandler, Arizona**
Team Leader   *Jan 2019 – Feb 2020*
- Wrote a 15+ page research paper about mathematical models the team designed + implemented using Python

Personal Projects

GeoPenguin ⦿   *Aug 2020 – Sep 2020*
- Designed iOS app using SwiftUI that reminded students to bring both COVID-related and personal items
- Implemented Geofencing technologies to encourage social distancing and track when to send out reminders

National Honor Society App ⦿   *July 2019 – Jan 2020*
- Developed both iOS (Swift) and Android (Java) mobile application
- Created personalized login system using student IDs and incorporated Google Firebase to send and retrieve information on app

CUSD Equity Symposium App ⦿   *Nov 2018 – May 2020*
- Produced iOS app for the Chandler school district's annual equity symposium
- Integrated Google Firebase to build a login system and to store symposium information in a database

Skin Cancer Diagnosis using Neural Networks   *Aug 2018 – April 2019*
- Built CNNs and Generative Adversarial Networks in Keras + Tensorflow to improve computer diagnosis of skin cancer

Skills and Interests

Skills: Java, Python, Swift, C++, Keras, Pytorch, Tensorflow, Numpy, Pandas, Git/Github, HTML, CSS, LaTeX, Scikit-learn, OCaml
Miscellaneous Skills: Photoshop, Autodesk Inventor, Solidworks CAD, Welding, CNC Machine, Soldering, Milling
Interests: Photography, Tennis, Snowboarding, Adversarial Attacks in Machine Learning, Robotics, Airplanes